Oct. 7, 1969 WING G. CHENG 3,471,849

LANTERN

Filed Feb. 23, 1966 3 Sheets-Sheet 1

Fig. 1.

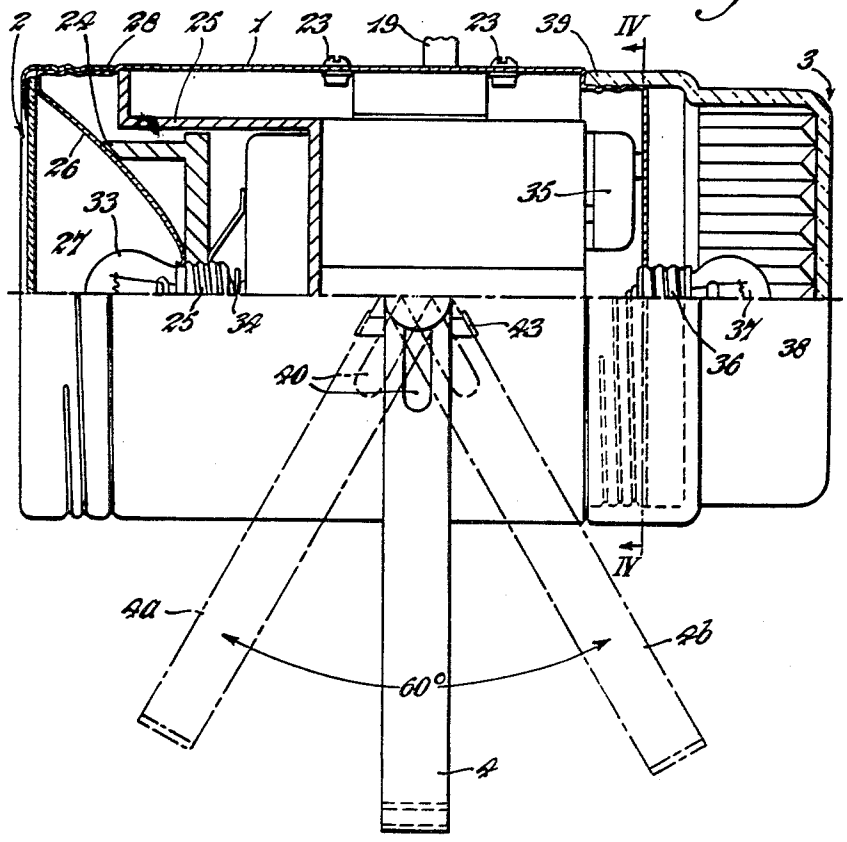
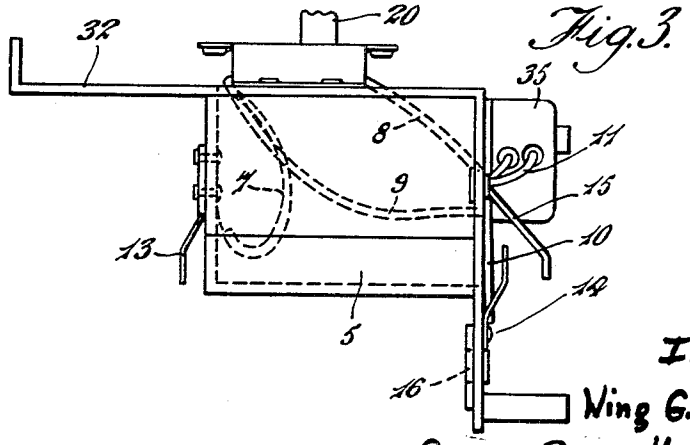


Fig. 3.



Inventor
Wing G. Cheng
Stevens, Davis, Miller & Mosher
Attorneys

Oct. 7, 1969 WING G. CHENG 3,471,849

LANTERN

Filed Feb. 23, 1966 3 Sheets-Sheet 2

Fig. 2.

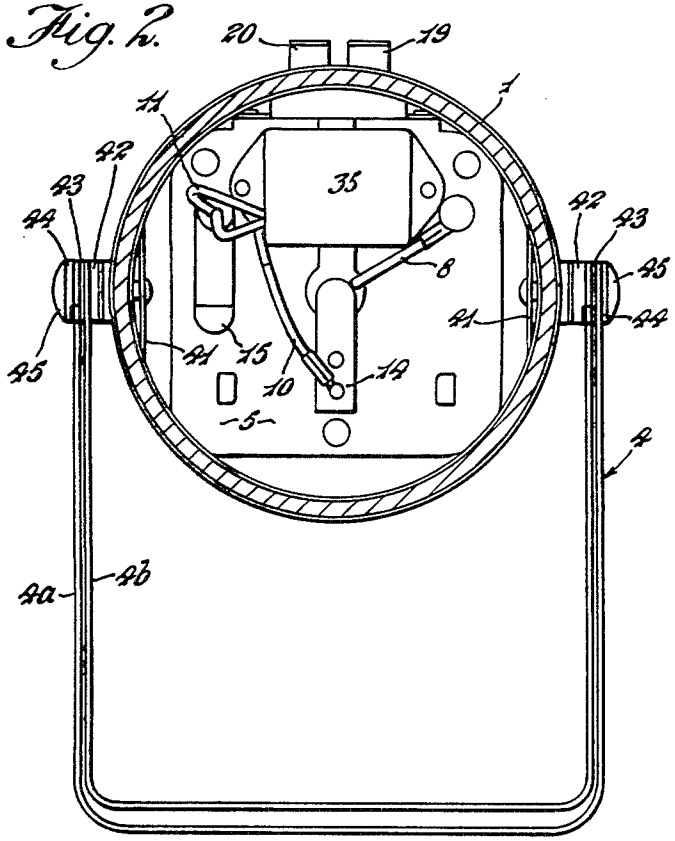


Fig. 5.

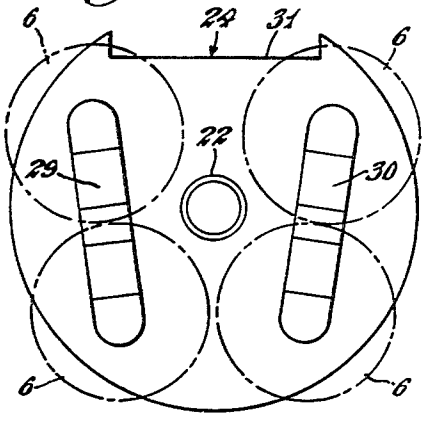
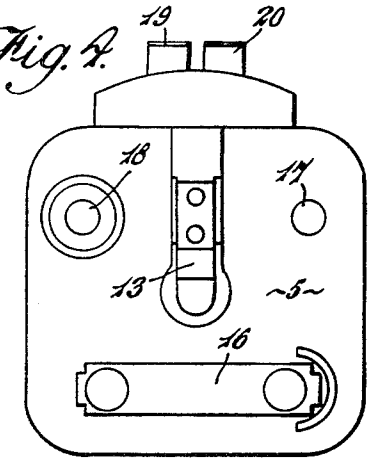


Fig. 4.



Inventor

Wing G. Cheng

Stevens, Davis, Miller & Mosher

Attorneys

Oct. 7, 1969 WING G. CHENG 3,471,849

LANTERN

Filed Feb. 23, 1966 3 Sheets-Sheet 3

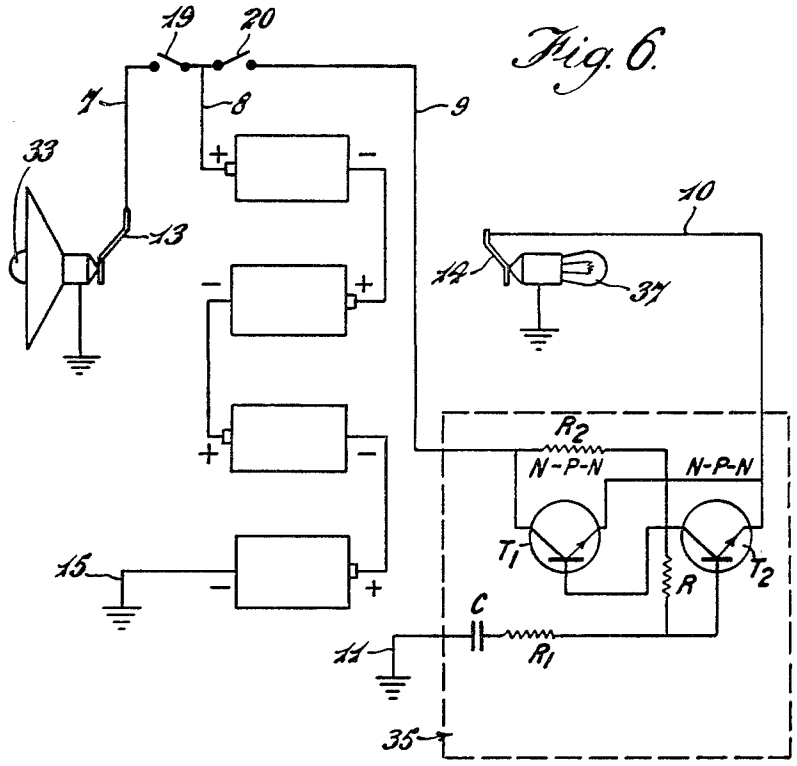


Fig. 6.

Inventor
Wing G. Cheng

Stevens, Davis, Miller & Mosher
Attorneys

United States Patent Office

3,471,849

Patented Oct. 7, 1969

3,471,849

LANTERN

Wing G. Cheng, Kowloon, Hong Kong, assignor to Meyer Manufacturing Company Limited, Kowloon, Hong Kong

Filed Feb. 23, 1966, Ser. No. 529,439
Claims priority, application Great Britain, Sept. 9, 1965, 38,567/65
Int. Cl. G08b 23/00
U.S. Cl. 340—321 4 Claims

ABSTRACT OF THE DISCLOSURE

A portable lantern has a lamp at each end, one of the lamps being wired through a flasher unit for emergency use. The lantern has a retractable handle made in two parts which open out to form a base on which the lantern may be stood.

This invention relates to lanterns.

An object of the invention is to provide a lantern comprising a tubular casing having a first lamp capable of emitting an ordinary beam at one end and a second lamp capable of flashing at the other end, a flasher unit being mounted in said casing and connected to said second lamp, and bulbs for the lamps being located substantially on the longitudinal axis of the casing and substantially at each end of said casing.

The end of the casing having the beam-emittable lamp may be adapted to serve as a base for resting the lantern on a substantially horizontal surface.

Preferably, the lantern is dry cell operated and electrical connections such as wires and conductor strips are assembled on an insulating member which is detachably fitted in the tubular casing.

A device may be provided at the end of the casing having the first lamp for serving as a connection between a battery of dry cells and for holding the cells against contacts on the insulating member when the lantern is assembled.

In a preferred embodiment, a handle is pivotally mounted on the casing at a point intermediate the ends of the latter. The handle may comprise a pair of U-shaped strips which are capable of being moved so that they are inclined to each other to form a support for the lantern so that said lantern may be placed on a substantially horizontal surface. Preferably, the strips can be opened out to include an angle of about 60°. The handle may be retracted towards the casing to take up less room for transportation or for storage.

A further object of the invention is to provide a lantern having a casing in which an insulating member is detachably mounted inside the casing, the member supporting a switch, a contact for an electric lamp bulb in the lantern and leads from the switch to the contact and to one terminal of a battery of cells, the member being adapted to support the cells when said cells are accommodated in the casing. Preferably, the lantern is provided with two electric lamp bulbs and the member supports two switches and an electric circuit for each lamp bulb.

The insulating member may also support a flasher unit, which may be transistorised and which is incorporated in at least one circuit.

The invention will now be further described by way of example with reference to the accompanying drawings in which:

FIG. 1 is a part-sectional side elevation of one example of a lantern according to the invention,

FIG. 2 is a section taken along the line IV—IV in FIG. 1 showing one end of the insulating member,

FIG. 3 is a side elevation of the insulating member showing the working parts assembled thereon,

FIG. 4 is a view of the opposite end of the insulating member to that shown in FIG. 2,

FIG. 5 shows the device for holding dry cells in the casing, and

FIG. 6 is a diagram of the electrical circuit employed in the lantern.

In the drawings, the lantern comprises a tubular casing **1** having a lamp **2** at one end for throwing an ordinary beam, a lamp **3** at the other end connected to a flasher unit and a pivotally mounted handle **4** intermediate its ends. Electrical connections for the lantern are assembled on an insulating member **5** which is illustrated in FIGS. 2 to 4. The member **5** is preferably moulded from a synthetic plastics material and serves to locate four dry cells **6**, connected in series, as well as to house five lead wires **7**, **8**, **9**, **10** and **11**, four conductor strips **13**, **14**, **15** and **16**, negative battery terminal **17**, positive battery terminal **18**, two single throw sliding switches **19** and **20** and a transistorised flashing device **35**.

All of the lead wires, conductor strips, battery terminals, switches and the flashing device are assembled on the insulating member **5** which is then inserted into the tubular casing **1** and secured therein by means of screws **23**. In this position of the member **5**, the two switches **19** and **20** pass through slots (not shown) in the casing **1**.

The device **24** illustrated in FIG. 5 serves to hold the dry cells **6** in the casing and serves as a connection between the cells. The holder **24** is made of synthetic plastics or other insulating material and is provided with conductor strips **29** and **30** which connect adjacent cells **6**. A notch or cut-off portion **31** is also provided in the holder **24** and receives a tail-piece **32** on the member **5** so that the holder **24** is non-rotatably held in the casing **1**.

An aperture **22** is provided in the centre of the holder **24** through which the bulb holder **25** of a reflector **26** can project when the reflector is fitted to the casing. The reflector is received in a screw-threaded cap **27** provided with a transparent front preferably made of glass. The transparent front may be constructed as a lens. The cap **27** is secured to the casing **1** by engaging its screw-thread with a corresponding screw-thread **28** formed on the end of the casing **1**. The aperture **22** in the holder **24** permits the cap **27** and hence the reflector **26** and bulb holder **25** to be fitted to the casing without rotating the holder **24** which preferably also serves to locate and support the reflector **26** in the casing.

A pre-focus lamp bulb **33** and socket **34** are fitted in the bulb holder **25**. The shell contact of the lamp bulb **33** is electrically connected to the casing **1** and conductor strip **13** is in contact with the central contact of bulb **33**.

The other end of the casing **1** is provided with a bulb holder **36** for a flashable lamp bulb **37** the flashing of which is controlled by means of the transistorised flashing device **35**.

The shell contact of bulb **37** is electrically connected to the casing **1** which is in turn electrically connected, through conductor strip **15**, to one terminal of the battery of cells **6**. The central contact of bulb **37** is electrically connected through conductor strip **14** and lead wire **10** to the flashing device **35** which comprises two transistors arranged to work in parallel. The transistors are connected to the other terminal of the battery of cells **6** through switch **20**.

The transistors may be of the n-p-n type in which case the casing **1** is connected to the negative terminal and the transistor control circuit to the positive terminal of the battery of cells. Alternatively, the transistors may be of the p-n-p type in which case the casing is connected to the positive terminal and the transistor control circuit

to the negative terminal of the battery of cells. The former case is illustrated in the drawings. One example of the electric circuit for the lantern in which the n-p-n type of transistors are employed is illustrated diagrammatically in FIG. 6. It will be seen from FIG. 6 that both lights may be switched on at the same time.

A transparent lamp shield **38** is provided with a screw-thread and is secured to the end of the casing **1** by engaging with a corresponding screw-thread **39** on the casing end. The shield **38** will normally be coloured red or orange but other colours are envisaged. Further, the shield may be translucent instead of being transparent.

The handle **4** comprises two U-shaped metal strips **4***a* and **4***b* superimposed upon one another and each having slots **40** at the ends of its limbs. The strips **4***a* and **4***b* are secured together at the end of each limb by rivets **45**. Each rivet **45** is fitted with a disc washer **44** on the outside of strip **4***a*, a sector piece **43** between the strips and a spring washer **42** between the outside of the casing and strip **4***b*. Each rivet passes through a hole in the casing and is secured to the latter by means of a substantially rectangular spring washer plate **41** on the inside of the casing. In this way, the strips **4***a* and **4***b* are pivotally mounted on the casing.

The handle may be used for carrying the lantern, in which case the strips are engaged so that they are aligned and the handle is turned so that the longitudinal axis of casing **1** is substantially at right angles to the longitudinal axes of the limbs of the U-shaped strips **4***a* and **4***b*. In this position, the lantern may be carried as a normal lantern with its beam extending in a substantially horizontal direction.

The handle may also be used as a stand or support for the lantern. In this case, the strips are opened out to the position shown in chain-dotted lines in FIG. 1. The lantern can then be rested on a table or any convenient horizontal support and the casing pivoted through 360°. The sector piece **43** limits the angle to which the strips can be opened out. This angle will normally be about 60°.

The slots **40** permit the handle to be retracted for storage. The strips are aligned and the handle is pivoted to the position in which the limbs of the U-shaped strips are substantially parallel to the longitudinal axis of the casing **1**. The handle can then be pushed towards the casing so that the rivets **45** slide along the slots **40**. When the handle is so retracted, the lantern takes up less space and thereby facilitates storage when the lantern is not in use.

I claim:

1. A lantern comprising a tubular casing, first and second lamps located substantially on the longitudinal axis of said casing and at opposite ends of said casing, respectively, a flasher unit within said casing and connected to said second lamp, and a handle pivotally mounted on said casing intermediate said ends, said handle comprising a pair of U-shaped strips capable of being moved so as to be inclined to one another to form a support for the lantern so that the lantern can be placed on a substantially horizontal surface, the ends of said strips being slotted so that the handle may be retracted towards said casing when not in use and may be drawn out when required for carrying the lantern or to serve as a support.

2. A lantern according to claim **1** wherein the end of said casing at which the first lamp is located is adapted to serve as a base for resting the lantern on a substantially horizontal surface.

3. A lantern according to claim **1** further comprising a subassembly mounted within said casing, the subassembly including an electrically-insulating member adapted to locate a plurality of dry cells in said casing, said flasher unit being mounted on said member.

4. A lantern according to claim **3** wherein said member carries two switches adapted to operate the first and second lamps, respectively, and the electrical connections between said cells and said switches.

References Cited

UNITED STATES PATENTS

1,423,911	7/1922	Cardwell.	
2,816,277	12/1957	Salkowski	240—10.63 X
2,918,668	12/1959	Stube.	

JOHN W. CALDWELL, Primary Examiner

C. M. MARMELSTEIN, Assistant Examiner

U.S. Cl. X.R.

240—10.63